

§ 35.41

prescribed in Part 33 of this subchapter.

[Doc. No. 2095, 29 FR 7458, June 10, 1964, as amended by Amdt. 35-2, 32 FR 3737, Mar. 4, 1967; Amdt. 35-3, 41 FR 55475, Dec. 20, 1976]

§ 35.41 Functional test.

(a) Each variable-pitch propeller must be subjected to the applicable functional tests of this section. The same propeller used in the endurance test must be used in the functional tests and must be driven by an engine on a test stand or on an aircraft.

(b) *Manually controllable propellers.* 500 complete cycles of control must be made throughout the pitch and rotational speed ranges.

(c) *Automatically controllable propellers.* 1,500 complete cycles of control must be made throughout the pitch and rotational speed ranges.

(d) *Feathering propellers.* 50 cycles of feathering operation must be made.

(e) *Reversible-pitch propellers.* Two hundred complete cycles of control must be made from lowest normal pitch to maximum reverse pitch, and, while in maximum reverse pitch, during each cycle, the propeller must be run for 30 seconds at the maximum power and rotational speed selected by the applicant for maximum reverse pitch.

[Doc. No. 2095, 29 FR 7458, June 10, 1964, as amended by Amdt. 35-3, 41 FR 55475, Dec. 20, 1976]

§ 35.42 Blade pitch control system component test.

The following durability requirements apply to propeller blade pitch control system components:

(a) Except as provided in paragraph (b) of this section, each propeller blade pitch control system component, including governors, pitch change assemblies, pitch locks, mechanical stops, and feathering system components, must be subjected in tests to cyclic loadings that simulate the frequency and amplitude those to which the component would be subjected during 1,000 hours of propeller operation.

(b) Compliance with paragraph (a) of this section may be shown by a ration-

14 CFR Ch. I (1-1-08 Edition)

al analysis based on the results of tests on similar components.

[Amdt. 35-5, 45 FR 60182, Sept. 11, 1980]

§ 35.43 Special tests.

The Administrator may require any additional tests he finds necessary to substantiate the use of any unconventional features of design, material, or construction.

§ 35.45 Teardown inspection.

(a) After completion of the tests prescribed in this subpart, the propeller must be completely disassembled and a detailed inspection must be made of the propeller parts for cracks, wear, distortion, and any other unusual conditions.

(b) After the inspection the applicant must make any changes to the design or any additional tests that the Administrator finds necessary to establish the airworthiness of the propeller.

[Doc. No. 3095, 29 FR 7458, June 10, 1964, as amended by Amdt. 35-3, 41 FR 55475, Dec. 20, 1976]

§ 35.47 Propeller adjustments and parts replacements.

The applicant may service and make minor repairs to the propeller during the tests. If major repairs or replacement of parts are found necessary during the tests or in the teardown inspection, the parts in question must be subjected to any additional tests the Administrator finds necessary.

APPENDIX A TO PART 35—INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

A35.1 GENERAL

(a) This appendix specifies requirements for the preparation of Instructions for Continued Airworthiness as required by § 35.4.

(b) The Instructions for Continued Airworthiness for each propeller must include the Instructions for Continued Airworthiness for all propeller parts. If Instructions for Continued Airworthiness are not supplied by the propeller part manufacturer for a propeller part, the Instructions for Continued Airworthiness for the propeller must include the information essential to the continued airworthiness of the propeller.

(c) The applicant must submit to the FAA a program to show how changes to the Instructions for Continued Airworthiness made by the applicant or by the manufacturers of propeller parts will be distributed.